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On the Subdivision of Real Property and its effects upon Agriculture and the Produce of the Soil in France, shown by the facts adduced in the recent Work of MM. Monnier and Rubichon. By The Right Hon. THE EARL LOVELACE

[Read before the Statistical Society of London, 19th June, 1848.]

MORE than half a century back our countryman, Arthur Young, published an agricultural account of France, derived from observations he had personally made in the course of his journeys through that country. There were then neither cadastre, surveys, nor statistical authority of any kind worth notice; and for his estimate of her produce and resources, the author was obliged to rely, first, on his own experienced *coup d'œil*; then, on such information as he could obtain from persons of rank or office in the different provinces; lastly, on calculations deduced from these imperfect data. The numbers of the population were better known, and their general estimated consumption of food per head afforded him the means of checking his view of the total produce of the country, which, in good seasons, he reckoned to be above its wants. Some idea of the difficulties of even an approximate notion of the respective spaces occupied by certain cultures on soils in certain districts may be gathered from the fact that, in Young's book, the extent of some of them is actually calculated by *weight*, and not by measure. Having constructed a skeleton map of the country, on paper of uniform thickness and substance, and marked thereon what, in the course of his travels, had been pointed out to him as mountains, sands, loams, and chalks, this sagacious writer proceeded to cut out and weigh, and ascertain by a rule of three sums, the extent of each due to their proportionate number of grains. This operation afforded him 25,513,213 acres of heathy land or waste. The real quantity now, under the official returns, is 22,701,757 acres; and the small difference between the two results is the more remarkable when we contrast the extreme simplicity of the process adopted by Young, with the laborious investigations of the cadastre. And if, as is probably the case, since 1790, any quantity of the heath lands have been brought into cultivation, from the increase of population, the difference is still further reduced.

With such unavoidable and certainly venial mistakes, Young continued long the only trustworthy authority on such matters among the

French themselves; and even at the present day his statistics concerning their country are quoted with great reliance on their correctness, by their writers on agricultural economy, and among them by the authors at the head of this article.

MM. Rubichon and Monnier have undertaken in this work a very careful examination, not only of the official documents connected with the inheritance, occupation, and produce of the land in France, published by the Government, but they have also directed, for the purpose of comparison, an equally patient and laborious attention to the parliamentary documents and other information afforded by our own Blue Books in England during the last ten or fifteen years. M. Monnier, the nephew, was active as an artillery officer under Don Carlos, in the North of Spain. M. Rubichon, the uncle, is a gentleman now far advanced in life, whose strong prepossessions in favour of the older order of things in France, have no more blinded him to the train of errors committed by the restored Bourbons, than to the despotism of Buonaparte, or the shortcomings of the *royauté consentie* of Louis Philippe.

France appears to have had no statistical account of her territory and productions until the reign of her late sovereign. In that of Louis XIV., Vauban had undertaken a kind of inductive calculation. Observing in some of the provinces of the west the proportions that vines, pastures, arable lands, and woods, gardens, and communes bore to each other, the Marshal proceeded to reckon the quantities thus occupied throughout the kingdom from these various and necessarily erroneous data. The *économistes* of the subsequent reign, who bestowed a particular and almost exclusive attention upon agriculture, contented themselves with arguing on the conclusions to be drawn from a basis which had never received the least official verification. The National Assembly, in 1790, charged the celebrated Lavoisier with the task of assessing the land-tax, then imposed, on a correct and just principle. Lavoisier was a farmer-general; a man of business as well as of science, he united the experience of office to the exactness of mathematical theory. Yet so little was understood in those days of the nature of the inquiry committed to him, or of the proper method of conducting it, that he founded all his valuations on the number of ploughs ascertained to be kept. This shows, at least, how forlorn and incorrect were the notions of some of the ablest men of the time upon this subject. The mathematician, Lagrange, two years after Lavoisier, than whom he was in some respects better qualified, became already aware that considerable errors had been admitted into the calculations of his predecessor. His own supposition was, that the annual consumption of the kingdom was 511·36 lbs. of corn, and 146 lbs. of meat per head; in all, 657·36 lbs., being one-fifth less than the soldier's ration for the whole population. Another estimate he drew from the *octroi* returns of towns at whose gates the provisions pay a tax on entry. This afforded him an allowance per head of 583·35 lbs. of corn, and 80 lbs. of meat, or in all 663·35 lbs.; the general proportion being of the former to the latter as 7 to 2: while at Paris it was as 21 to 10, and in the manufacturing towns (which were the least well fed) as 15 to 2. Lagrange's estimate is evidently too high: the comparative consumption of all the towns would be much increased by the number of travellers, whether posting or in diligences, whose meals would demand

an additional introduction of provisions, and swell the apparent portion of each inhabitant of them.

All this, however, was mostly guess work. In 1810 Napoleon gave orders for a general statistical account of his empire, to be based upon the cadastre. The labours of the commission to whom the task was confided were said to have disappointed the Emperor. Very little fruit had been gathered from them, when the Bourbons, on their return in 1814, dissolved the commission and instituted a fresh one. Still the result was meagre and vague. The cadastre gave no account of the number of acres under any description of crop except vineyards; the tax-papers gave no statement of the agriculture of the land assessed any more than our rate-books do in England; and the *octroi* documents only recorded the consumption of the towns, without noting from whence they were supplied. At length, in 1836, the Government addressed a circular to the préfets, enjoining them to have registered, by means of *sus-préfets*, *maires*, and other subordinates, in each of the 37,300 communes of France, an inventory of their rural produce, live stock, and account of their consumption. The meridian of Paris cutting France into two nearly equal halves, and then intersected at the 47th parallel, divides the kingdom into four nearly equal portions: the nord-oriental and occidental, the midi-oriental and occidental; each containing twenty-one or twenty-two departments, and possessing a nearly equal amount of population. More than 100,000 persons were employed in the task, which was executed with great care and accuracy. Yet in spite of the extreme minuteness with which the inquiry was conducted, it is even now difficult to ascertain whether the *morcellement* or subdivision of the soil among an infinity of owners, so much deprecated by some, so much insisted upon by others as a cure for all social evils, is proceeding at a rapid or at a moderate pace. That it is increasing we imagine is indisputable: that an indefinite parcelling out of the surface of the country would also be an evil few can doubt. But whether the *morcellement* is fast tending towards such a condition of things—whether any counteracting or modifying causes are presented by other circumstances, or institutions in the country—we are left in the dark by the *Statistique Agricole*.

In fact, these returns, while they give us the extent of the land under each crop, the quantity and value of the crop, the number of the different owners in each commune, or parish, are not so combined and digested with those of others as to afford a certain and comprehensive view of the state of property in respect of the *morcellement*. An owner may possess fifty acres in as many different parcels of the same commune: he will then figure only as one *côte foncière*,—i. e., be assessable in one sum as for one estate; if a tenth part of this quantity be scattered about in three or four other communes, he will then appear in the same number of returns. The summary or abstract number of *côtes* does not, then, afford an absolute account of the number of owners. An index would, but its compilation would be a task little less troublesome than the cadastre itself; and besides, from the frequency with which, as we shall see, property changes hands in France, it would, in a few years, become of no avail.

The whole extent of France and Corsica is 130,338,486 English acres. Omitting roads, rivers, fortresses, crown property, buildings,

&c., its *superficie imposable*, or, as we should term it, rateable land, appears to be 49,878,208 hectares, or 123,197,173 acres.

In 1789-90 Arthur Young reckoned the value of the gross produce per acre over the whole kingdom at a trifle over 35s., and that the wheat lands averaged 16 bushels an acre. The authors of "*Patria*," a recent statistical compendium, yet in the course of publication, put it at only 32s. From the tables given in the work before us, we think it should be a little higher than "*Patria*;" and we will now lay before the reader the principal figures of the computation, premising that the measures of surface and capacity, as well as the price, have, for the sake of convenience and comprehension, been turned throughout into their English equivalents.

English Acres.		s.	d.
34,333,647 of cereals.....	produce	54	7
6,819,382 „ divers cultures	„	87	4
16,705,306 „ fallows	„	4	7
10,369,546 „ meadows.....	„	37	2
3,894,171 „ artificial grasses	„	43	4
<hr/>			
72,122,052			

Hence 72,122,052 acres, of what we should term in England under the plough and scythe, thus yield 34s. 1½d. per acre. More than a quarter of the whole of the breadth producing a rotation of crops (which, deducting the meadows, is 61,752,506 acres,) appear to receive a naked fallow; we suppose, at least, that the trifling item of 4s. 7d. an acre, with which these 16,705,306 acres are credited, arises from the browsing of such natural weeds and vegetation as may spring up after the corn crop has been taken off, and before the ploughing has recommenced.

There are, however, 22,702,957 acres of commons, wastes, and pastures, yielding 3s. an acre. We are not informed whether any, and what proportion of these, are in severalty, but it is probably very small—the climate of France being for the most part unfavourable to pasturage (except in the deep alluvial soils near the rivers, and on the mountain sides and hill tops); the plains only remain, therefore, in a state of pasture, on account of the difficulties in the way of enclosure, on which our authors enlarge. If we are to bring their small acreable produce into hotch-pot, the average yield would be lower than we have stated it; the 72,122,052, with the addition of the 22,702,952 acres of waste at 3s., would be 99,695,513 acres at 33s. 7½d. per acre. But such pastures, wastes, and commons would not in England be the subject of any separate rating or distinct valuation, though, no doubt, they would be considered in the rental or assessment of the farms to which they were appurtenant; and this is the fair way, it strikes us, of considering their apparent equivalent in France. We should in that case apportion their money value 3,419,433l. among the 72,122,059 acres before mentioned as under the plough and scythe, whose gross yield would then be increased by 11½d. an acre, making in all 35s. 0¾d.

We have hitherto excluded vines from our calculations, wishing, in the first place, to afford the means of comparing together the crops which are common to this country and to France. Accordingly, with the exception of maize, the acreable value of which produce appears to

be below that of the other corn crops and of tobacco*, of which less than 20,000 acres are grown, the whole of the 72,122,052 acres hitherto mentioned, are occupied by crops with which we are familiar in England, and which our own soil and climate ripen equally well. There are, however, 4,871,680 acres of vineyards, with a gross receipt of 71s. 8d. per acre. The whole country, then, is thus divided:—

English Acres.		According to A. Young in 1790.	
Ordinary tillage....	34,333,647	Arable	English Acres. 70,000,000
Diverses cultures	6,819,382		
Fallows	16,705,306		
Artificial grasses	3,894,171		
	61,752,506		
Meadows	10,369,546	{ Meadow, and pasture, and water	36,872,711
Pasture and wastes	22,702,171		
	33,071,717	Vines	5,000,000
Vineyards	4,871,680	Woods	19,850,000
Orchards, ozier beds, nur- series, olives, &c.}	3,578,699		
Woods, timber, and coppice	21,747,238		
Total du domaine agricole....	125,021,840	Vines produced 76s. 6d. per acre, and woods 12s., being cut at 17 years' growth.	
Other surfaces (not rateable)	5,319,504		
Total of France and Corsica	130,341,344		

Into the annual produce of the woods (9s. 6d. per acre,) the vineyards, orchards, chesnut-groves, nurseries, &c., it is not at present worth while to enter; they do not either give the measure of the current annual value of the land, being, in fact, the result of thrift, abstinence, and forethought of former possessors, who planted and provided, to their own temporary exclusion, those of which the present generation thus reap the benefit. It is as to the rate of produce, as far as it can be compared with that of our own country, that this record is interesting to us: 35s. an acre is the average obtained from seventy-two millions of acres, a result which no one conversant with agricultural affairs can peruse without surprise; and this after we have thrown into the scale for the sake of comparing it with England†, the common

* Tobacco appears to give the largest return in money per acre of any crop except hops; we know, however, that in this country the expense of cultivation of the latter is enormous, and a corresponding condition in France may account for the small growth of so apparently lucrative a plant.

† Mr. M'Culloch, in his statistical account of the British Empire, supposed that in England out of 12,000,000 of acres cultivated, only 1,650,000 were fallow, that is, little more than one-seventh. In France, the fallows are about one-fourth. His estimate was:

	Acres.	Rate of Produce.	Quarters.	s.	£
Wheat.....	3,800,000	3½	12,350,000	at 50	30,875,000
Barley and Rye	900,000	4	3,600,000	at 30	5,400,000
Oats and Beans	3,000,000	4½	13,500,000	at 25	16,875,000
Roots	1,200,000	} at £ 5	5 0		13,125,000
Clover.....	1,300,000				
Gardens and Hops....	150,000	„ £15	0 0		2,225,000
Fallows	1,650,000				
	12,000,000	arable			68,525,000
Grass and Meadows	17,000,000	at £3 10	0 per acre		59,000,000
	29,000,000	acres at			£128,025,000

right over nearly twenty-three millions more. But this is not all. Very nearly seven millions are stated to be in *diverse cultures*, that is, potatoes, buck-wheat, legumes, beet-root, hops, rape, flax, hemp, tobacco, and wood. We described this erroneously as arable, wishing to bring it succinctly under the reader's notice, but, in reality, it is mainly raised by spade husbandry and by manual labour. In fact, M. Jung, a writer in "*Patria*," says there are no less than forty million acres cultivated by the spade in France. Now whatever may be the disadvantages belonging to the *petite culture*, however well-founded may be the apprehensions put forward in opposition to the general extension of field-gardens and allotments in England, it is generally admitted that their produce is much greater, that the land yields far more than under the operation of the plough; the objection with us being, that if its quantity is carried beyond a mere supplementary aid to the labourer's comforts, if it induces him to rely too much upon it and to give up working for wages, it may augment the evil it is intended to remedy, by unduly stimulating a population who will, instead of eventually earning therefrom a decent livelihood, be content, as in Ireland, to satisfy a grovelling existence. The bulk raised is certainly larger, it may amount to 20*l.* or 25*l.* per acre, instead of the 4*l.* or 5*l.* that the farmer raises, but if it costs the latter 1*l.* or 30*s.* to raise them, and it occupy the labourer or peasant three-fourths of his time from year end to year end (which at 10*s.* per week would be 20*l.*,) there is, economically speaking, the reverse of gain; since his labour, after replacing its cost, brings in only 25 per cent. additional, while the farmer's capital does as much and far more, and enables him to send a greater produce to market. Keeping these reflections in mind, it must be owned that the very slender return obtained by a population so generally engaged in agriculture as the French are, is astonishing. In England about 3 men to 100 acres is the general average, while in France every 100 acres of the rateable surface occupies 8·17 men*. M. Dupin, in his *Forces Productives*†, says there are 810 *travailleurs* to every 2,470 acres in France, meaning the combined strength of men and animals in France equalled that number, or in all 37,278,511; whilst, according to the same author, in England the quota was 1,138 to 2,470 acres, or in all 24,632,446, of which the men were 2,132,446 only; the rest their equivalent in animals, at the rate of seven men to a horse, two and a half to an ox. We may add, that in France there are 240,000 asses, each reckoned equal to a man!

M. Rubichon, taking the whole superficies of what he terms the *domaine agricole*, finds that it gives a mean return equal to 30*s.* per acre; this is lower than our own figures, and lower also than other computations by the French themselves, but that difference is only 2*s.*

Mr. M'Culloch, indeed, by increasing the money value of one of the corn crops, makes the gross total amount to 132,500,000*l.* We have been moderate, and have taken the lowest of his figures, which is, perhaps, too high. Even then the gross produce comes to 4*l.* 8*s.* 3*d.* per acre; and after every allowance for the possible exaggeration of that eminent author, it is a striking contrast with the 35*s.* of the neighbouring kingdom.

* If we exclude the woods, there remain only 80,372,431, which makes the average employment of 9·5 men to 100 acres.

† Page 116.

or 3*s.* per acre. M. Rubichon embraces, in this result, the 21,747,238 of timber and coppice, which bring in 9*s.* 6*d.* per acre, and the 22,702,957 acres of wastes at 3*s.*, which, together with vineyards, we have excluded from our average, being anxious to present to the English reader the relative yield of the crops with which he is familiar, and having purposely omitted from our calculations those peculiar occupations of the soil which either unduly lower the gross total, or are irrelevant to the inquiry in hand. 35*s.* an acre is, indeed, a miserable return wherewith to pay rent, taxes, and expenses of cultivation for the land. We have seen that A. Young estimated the yield at sixteen bushels of wheat the acre, it is now 14·25 hectolitres per hectare; that is, very little more than fourteen bushels and a half an acre. The account is quite as discouraging in the department of live stock. The numbers annually slaughtered are, oxen and cows*, 1,211,861, calves, 2,487,362, in all of cattle, 3,699,233. Of sheep and ewes there are 5,804,681. The average weight of the ox is 686 lbs., the cow 506 lbs., calves 173 lbs., of the sheep 50·6 lbs.; pigs and goats weighing respectively 201·7 lbs., and 48·6 lbs., yield a total of 673,389,781 kilogrammes, or about 44 lbs. per head to a population of thirty-four million†.

It is demonstrable, not only that the Frenchman is much worse off than the Englishman, but that he is less well fed than during the devastating exhaustion of the empire. The present consumption of wheat is 4·73 bushels per head on the population throughout France, the highest being in six departments of the Midi Oriental, where it is 5·97 bushels (25 per cent. less than the average in England); the lowest is in twelve departments also of the Midi Oriental, where the allowance is but 2·64 bushels. So that while our portion in England is (at the rate of one quarter per head) equivalent to twenty ounces of bread per diem, the Frenchman is obliged to content himself with ten ounces, according to Parmentier's calculation; in addition to which, there are for him one ounce and two-thirds of meat daily compared with our six ounces. M. Rubichon may well remark on the extreme sobriety of his countrymen, whose allowance, he says, is only one-third that of the soldier or the convict. This may be true, but it is not conclusive. Soldiers and convicts being mostly men in the prime of life, performing certain duties requiring fair sustenance. When the *average* of a population is taken, there are, in the first place, one-half of them women, who eat less,—(Gasparin reckons that women consume two-thirds only of what the working man eats, and children one-third,)—besides the children and aged, who are smaller consumers. M. Rubi-

* The beasts are killed at four years old, and are thus 25 per cent. of those living; cows at eight years old; sheep at three years; ewes at nine; pigs from nine months to one year.

† Mr. McCulloch (Statistical Account of British Empire) thinks we have in Great Britain 5,220,000 head of cattle, of which one-fourth (1,305,000) are annually slaughtered, and about 39,648,000 sheep. Some French authors put our numbers higher. M. Ternaux, a celebrated breeder and flock-master, reckoned us to possess 45,000,000 sheep. Speck thought 55,000,000, giving at three and four years old 60 lbs. of mutton each, while France had only 30,000,000, which at six and seven years only netted 30 lbs. Many complaints are made of the division of land as being fatal to flocks, among others by Count Louis de Villeneuve, President of the Agricultural Society of Toulouse.

chon, however, justly censures a member of the French Chamber of Peers (probably Rossi) for having asserted that the French nation was the best fed, clothed, housed, and employed on the face of the globe, not excepting England, and he then exclaims against the flatterers, whether of the despot or the people. That such an assertion could have been swallowed, by either the one or the other, is strange, when the population of Paris is known to have increased 40 per cent. since 1816, and yet, in spite of affluence, royalty, garrisons, and strangers, the number of beasts introduced for consumption has diminished rather than otherwise.

"In some countries," observes M. Rubichon, "that pass for rich, the inhabitants may be poor enough notwithstanding. In one of the most fertile parts of the Austrian Empire, the Lombardo-Venetian kingdom, with a population of 314 to the square mile, there are but 176 head of cattle to every 1000 inhabitants. In the part of its dominions which abuts against Turkey, it has been the policy of the empire to rely on feudalism for her defence against the Moslim; the population there is scanty, but in better circumstances; the proportion of cattle is 554 to every 1000 inhabitants." We would merely remark *en passant*, that the mere co-existence of these two orders in the creation in such and such relative quantities, is itself no proof of prosperity; and that to give entire assent to his opinion, we ought to know what share those 1000 inhabitants obtain of the 554 beasts. We believe that they are reared for exportation, as cattle are in the Highlands, for the betters of those that rear them; the betters being in some cases, as we know, the English serjeants, corporals, and rank and file, stationed in the Ionian Islands, for whose supply these Transylvanian quadrupeds end their career by a six weeks' walk, down from the plains of the Danube to Prevesa and the coast of Albania. In our own country, according to M'Culloch, if his statistical accuracy in a matter so problematical is to be relied on, there are the *equivalent* of 9,184,000 cattle; that is, assuming with M. Rubichon that 39,640,000 sheep are equal to one-tenth of that number of beasts, and adding them to the 5,220,000 cattle, we have 9,184,000, or about 564½ beasts to every 1000 inhabitants in Great Britain; this, however, was according to the census of 1831. Mr. M'Culloch's work was compiled with reference to that, and not to the later census, whose results were not known. But there is every reason to believe that the supplies of animal food have advanced *pari passu* with the population since, and that the rise in price which has taken place has been from the enormous appetite of several hundred thousand railway navigators, artisans, &c., earning high wages, and who have been thus unexpectedly thrown into the provision market as competitors. Vauban, Bossuet, and La Grange, three men of totally different pursuits, habits, and ideas,—war, religion, and science, generals, bishops, and philosophers,—have each told us in different language, what amounts to the same thing, that the richest and most comfortable nation is that which can afford to eat the most meat; but then men of their capacity considered well the subject; they seem to have weighed men as well as counted them, (a suggestion of the late M. Th. Sadler,) whereas the materialist of the present day looks only to facts, figures, and acres.

We observed before, that the condition of the French people and

their command over the necessities of life had rather retrograded since the Peace. MM. Rubichon and Monnier show that the harvest of 1815 yielded only 12 bushels the acre: the most abundant crop was in 1832, when the produce was 21·7 bushels the acre*. From 1816 to 1825 the average price in France has been 61s. the imperial quarter; from 1826 to 1836 it has been 55s. 6d. It has been the custom to hold out the greater cheapness or plenty of corn abroad, as one of the advantages enjoyed by the foreign manufacturer over our own. We see that in France wheat is neither plentiful nor cheap: in the corresponding periods, from 1816 to 1825, the price in England was 65s. 0 $\frac{7}{10}$ d.; in the latter period, from 1826 to 1832, it was 56s. 9d., being respectively 6·1 per cent. and 2·2 per cent. above the average French prices; a fact equally embarrassing to the ultra free-traders as well as protectionists.

Léon Faucher, in his "Etudes sur l'Angleterre," speaking of the low wages in Dorsetshire, says, "however it may be for England, it is a rate which is only obtained by the French labourer in the immediate vicinity of Paris."

The comparative condition of the population of Paris in respect of provisions will best appear from the following table, calculated by M. Bénéiston de Chateauneuf, for the following periods:—

	1789. 600,000	1817. 714,000	1827. 802,000	1837. 841,700
Population of Paris				
	lbs. ozs.	lbs. ozs.	lbs. ozs.	lbs. ozs.
Butcher's meat, per head	147 0	110 9	110 3	98 11
Pork, &c.	9 12	20 9	18 1	17 1
Game and poultry	22 9	19 0	18 4	13 12
Bottles of wine	120	114	126	111
„ beer	9	11	20	13
„ brandy	4	6	5	11 $\frac{1}{2}$
Wood (voie)	1	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Coal „	1	1	1	1

This document suggests much matter for reflection. It appears, that while butcher's meat has decidedly decreased, a considerable augmentation has taken place in the coarse inferior meat; pork, for instance, has nearly doubled. In the former period, the Parisian allowance of flesh of all sorts was 179lbs., of which only 5 per cent. was pork; in the latter it is but 130lbs.,—a diminution of above one-fourth; whilst of what he *now* has, 17 per cent. is pork.

The decreased allowance of wine has been nearly balanced by a greater consumption of beer; no bad exchange, probably, for the inferior kinds of wine with which the lower classes are obliged to content themselves. The share of wood fuel to each inhabitant has been lessened to one-half, as might have been expected, while as yet the deficiency has not been made good by the introduction of coal, of which the proportion burnt appears to have sustained no alteration in sixty

* 8·60 hectolitres per hectare, 15·52 hect. per hectare.

years. In a work on the "Culture des Bois," published in 1840 by M. Thomas, an extensive dealer in wood, the writer stated the consumption of Paris (600,000 voices) required the produce or fall of 50,392 acres of coppice or taillis of twenty years' growth; and, therefore, that the whole extent of land requisite for supplying Paris with fuel would be 1,007,480 acres—that is, a district equal to the three counties of Middlesex, Surrey, and Hertfordshire*, and 4320 acres more.

M. Thomas, a hard-working provincial, grumbles (not with a very good grace, as some will think,) at the excessive demand at Paris for the article in which he deals, thrives, and writes about. "C'est un véritable gouffre que cette ville . . . qui paye 88,740,815 francs d'impôt, et qui en fin possède 175 journeaux quotidiens, hebdomadaires," &c. How, he asks, are these papers to be read at home, or at cafés, and smoking-rooms, unless one's hands and feet are warm? Paris too, he complains, "has her army of *employés*, who are to be warmed seven or eight months in the year; it has 2,000 bankers and stock-brokers, 1,800 doctors, 910 lawyers, &c., and a host of other functionaries and sinecurists, (much the objects of his ill-will,) but who must, nevertheless, be provided with an agreeable temperature, in order that they may comfortably spend the fifth part of the budget," which he declares they share among them. In short, at the Ministère des Finances (the Treasury Chambers at Paris) 4,000 to 5,000 stères (2,000 to 2,500 voices) are burnt every season, which is equal to the supply of all Paris in the reign of Philip le Bel (A.D. 1289). When the northern railways transport coal from the mines of the Ardennes, the use of wood as fuel will be lessened, even if it does not wholly disappear; and so, we grieve to think, will the freshness of colour and outline of the Parisian edifices.

On the subject of the meat trade in the French metropolis, a government commission in 1841 reported that the price of coarse meat for the lower classes had risen from $3\frac{1}{2}d.$ or $4d.$ the pound to $5d.$ and $5\frac{1}{2}d.$; and that for the more affluent from $5\frac{1}{2}d.$ and $6d.$ to $7d.$ and $7\frac{1}{2}d.$ Yet between 1824 and 1839 the butchers declared there was a falling off both in quality as well as size: in the oxen from 748lbs. to 686lbs.; beasts, in short, decreasing 7 of our London stones of 8lbs.; a sheep half a stone (4lbs.) in the last fifteen or twenty years. In 1710 the Commissioner De la Marc reckoned the average net weight of an ox to be 800 or 900lbs., it is now 650 or 660lbs.; and their tallow, which in 1835 amounted to 5,600 tons, weighed only 5,066 tons in 1840, though in the latter year forty-five more beasts were slaughtered than in the former.

So long ago as 1806, M. Sauvegrain, the Giblett of Parisian butchers, had observed the great decrease both in the number and weight of beasts supplied to the capital since 1783. And of late years, the increasing consumption of the flesh of horses, in spite of its prohibition, has compelled the authorities of Paris to legalize its introduction into the city.

	Acres.
* Middlesex	180,480
Surrey	485,120
Hertfordshire	337,920
	<hr/>
	1,003,520

Not that this unnatural use of so noble an animal increases the supply of him; quite the reverse. The price, we are told, has risen, on an average, 5*l.* or 6*l.* The heavy cavalry (carabiniers and cuirassiers) now give 30*l.*; dragoons, lancers, and artillery, 24*l.*; hussars and chasseurs, the lightest, 20*l.* And yet again in 1845 the price has risen 2*l.* a-piece, and 4*l.* for the officers' chargers, they being mounted by the state. The French military service requires according to M. Rubichon,—

	In time of peace.	In war.
For the cavalry	40,244	56,624
„ artillery.....	9,598	42,076
„ engineers	150	621
„ waggon train.....	1,064	7,728
	<hr/> 51,056	<hr/> 107,049

We see, however, from an article in “*Patria*,” by M. M. Lalanne, that in 1845 the actual number of horses in the French army was 87,217, of which number 17,571 are employed in Algeria. There has been an annual *remonte* from native-bred horses of something less than 5,000; and in the ten years 1831—1840 an average importation of 38,464. The 37,643 horses purchased abroad for the army in 1840 cost 27*l.* a-piece. The wear and waste appear very large, the term of service hardly reaching three years. It must be remembered, however, that during the whole of that time the French have been constantly worried by the description of warfare carried on in Algeria, where campaigns against Bedouins, Cabyles, or Memlous, are sure to be fatal to numbers of the northern bred animals, as also to their riders. Besides reckless expenditure has from the commencement been the order of the day at Algiers. M. Rambot indeed (*Richesse Publique*) says, “Eh bien! avec de l’argent on fera naître des chevaux;” which is true: but it will not do to begin breeding when a war breaks out, on the chance of its lasting six or seven years, to be closed with a brilliant charge of home-bred cavalry. Since the disappearance of the establishments of the old noblesse and country gentlemen, who were breeders for the saddle and for harness, the French have always had difficulty in mounting any large force of cavalry at home. The Directory, the Consulate, the Empire, exacted contributions from all the world: 100,000 horses crossed the Niemen in 1812, of which all but 5,000 remained to feed the vulture between it and Moscow. But the loss (when the French arms began to decline) was not recovered. After Lutzen and Bautzen, Napoleon observed, that had he possessed a corresponding force of cavalry, he should have re-conquered the world; but it existed no more. Grouchy, one of his best officers of that arm, finding no employment in it for him, retired for a time, only re-appearing to assume the command of a division of infantry when France was invaded. Even the *gendarmerie*, scattered all over the country, with every advantage of being on the spot, and opportunity for buying their own horses, obtain three-fourths of them from Germany. In fact, since Preseau, who wrote on these subjects in 1788, lamented that France possessed only 3,300 stallions, from which an annual breed of 100,000 horses might be expected, the number has declined to 900—little more than a fourth part of what a good judge had pronounced deplorably little nearly sixty years since.

A French writer, on the other hand, pays us the compliment of thinking all our hacks, machiners, and posters, fit for cavalry; and truly they are so, when compared with those of most other nations. Numerically, however, we have not much to boast over our neighbours. The number of horses in France is supposed to be 2,500,000. Jung, in "*Patria*," says more than 2,800,000. Mr. M'Culloch thinks that in Great Britain there are 1,500,000; others, 1,800,000; but these do not take account of ponies, or, perhaps, of exempted horses used in the yeomanry, nor those of the regular cavalry. Altogether we have probably not more than 2,000,000 of horses of all sorts.

M. Rubichon is in a dilemma from the dearth of horses and cattle. Wishing that France should be powerful and well prepared for war (which, without cavalry, she cannot be), he is anxious for the increase of that animal; but then this can only happen by the exclusion of the ox—an unfortunate choice between honour and starvation. Every horse in England has been reckoned to cost as much in maintenance as a labourer's family. M. Louis Blanc, in his "*Histoire de Dix Ans*," shows there are some stables where things are less economically managed. Alluding to the 300 *chevaux de luxe* maintained for the royal equipages, at an expense, it is said, of *mille écus* each, "*Pourquoi traiter*," asks he, "*chacun de ces chevaux comme un conseiller de Cour Royale, et deux fois mieux qu'un membre de l'Institut?*" Either the horse is extravagantly dear, or the councillor is marvellously cheap—we cannot stop to examine which. The Institute is still worse off, as a pair of *savans* are thereby reckoned equal to one royal quadruped. "It is an error," he adds, "to infer that inequality of territorial fortune entails a corresponding inferiority of subsistence—people do not eat their land, but that which the land produces. Equality in the division of subsistence—that is the only one reducible to practice—the only one which five-sixths of the nation (that is, *the people*) claim in return for labour far more severe than that which is borne by the other sixth, to whom the name of *the public* is given." That is, the law-making, tax-collecting, office-holding public, who oppose their hateful minority to the labourer, soldier, artisan, and operative.

"Persons," he continues, "who doubt these facts may consult the English commissioners of inquiry into the state of the hand-loom weavers—men who believe themselves, and whom we imagine to be the most unfortunate of mankind: they establish clearly before the committees of Parliament the quantum of food necessary for their existence—it is of three or four times the value (in money) of what our peasants of the South of France consume, who only get chestnuts, dry pulse, Indian corn, barley, and rye. These English hand-loom weavers are very unhappy because they can only obtain bread and work in a precarious manner. *We will only observe that there has in all times been more inequality in France than in England in this respect: but we are ourselves an eye-witness that the Revolution has increased these inequalities tenfold.*"

It does not appear, however, that the division of the land which he so much complains of dates only from the Revolution. The legislation consequent on that event rendered it compulsory—at first absolutely vesting in the children the whole inheritance; at last leaving to the parent the disposal, by will, of one share more than the number of

the issue; so that if there were but one child, half, if two, a third of the estate was at the disposition of the testator. The decay of the landed aristocracy began in Louis the Fourteenth's time.

The imperative *morcellement* was, however, much arrested by twenty-two years of war, up to 1815, which settled a number of co-heirs. One law gave a man a bit of land, another marched him off from the cultivation of it to the Tagus, the Niemen, or the Danube, where perhaps he left his bones; but "in 1815, with the peace, the prisoners and the armies re-entered France. . . . At this period the mattock goes to work on hotels, convents, and churches in the towns, as on the castles and abbeys in the country—the axe fells the trees scattered about on the plains as it does the forests on the mountains: the soil crumbles down the hill sides—the torrents devastate towns—the plough first, and then the spade, come to break up the meadows by the sides of rivers, as well as the sandy heaths of the interior—and all this by opulent companies, organised for the express purpose. This indeed is the only unity of action that France has exhibited at this period, for there is not a single town, not a village, hamlet, or even family, which has not participated in these destructions, or been a victim to them. Never, perhaps, since the creation of the world, did the human race perpetrate a similar suicide. Sylla forced his 6,000 prisoners to slaughter each other; but here all these destructions have been voluntary. Yet this has been termed the Restoration."

But it is time to draw the reader's attention to the statistics of the *morcellement* itself. France and Corsica contained, in 1815, 10,083,751 *côtes foncières* (i. e. distinct properties separately assessed to the land-tax), which, in 1835, had increased to 10,893,528.

Of these properties	5,205,411	paid less than	5 francs of impôt.
"	1,751,994	paid from	5 to 10 each.
"	1,514,251	"	10 " 20 "
"	739,206	"	20 " 30 "
"	684,165	"	30 " 40 "
"	553,230	"	50 " 100 "
"	341,159	"	100 " 300 "
"	57,555	"	300 " 500 "
"	33,196	"	500 " 1000 "
"	13,361	"	1000 and upwards.
		10,893,528	

The first, 5,205,411, M. Rubichon shows to belong to about half as many families, who thus derive a mean rental of about 40s. per annum from their property. There are, besides, about 4,250,000 of families (out of the whole 5,446,763 that are owners of land), and who appear to derive an annual income of 68s. only from their portions of the soil. Nothing is more common than for these little freeholds to become forfeited to the state, from the inability to pay the *impôt foncier* (which appears to be about 7 per cent. on the rental). The unfortunate defaulter is allowed, on payment however of a registration fee of two francs, to give up for ever his little plot, in order to save his slender personality and household stuff from the clutches of the tax-gatherer. This is not all: there are not quite 11,000,000 of separately rated *côtes foncières* in France, but these are divided into 123,360,338

parcels, about eleven to a *côte*—not enclosures of the same farm in juxtaposition to each other, but more like our lands lying in common fields in England, perpetually intersected by those of the neighbours. Within ten years, more than half the value of the land of all France, 933,880,000*l.* worth of property has been proved to have changed hands (what a career for the Rainys and Robinses!!), of which 372,680,000*l.* have been by inheritance in the usual course of nature; 85,800,000*l.* by donations *inter vivos*, and with the commendable view of preventing dismemberment. But the residuary 475,400,000*l.*, i. e. *more than a fourth part of the whole fee-simple of the country, has passed in those ten years into the hands of complete strangers.* At this rate a generation and a half would see the entire kingdom in the hands of another race, totally unconnected with its former owners; and we doubt whether, except in a revolution, a conquest, or newly-settled colony, such a circumstance has ever been witnessed before.

These sales, of course, multiply the owners; there is in France the same intense anxiety to possess a bit of land as in Ireland. It has given rise to the "*bandes-noires*," an expressive term for an association of notaries, country bankers, attornies, land surveyors, and jobbers of all sorts, who combine together when an estate is to be sold, tempt the owner with a good price and an exemption from all trouble to dispose of it to them, they then cut it up into lots to suit the needy market. A farm of 200 acres is thus parted off into twenty, fifty, or more allotments, which are paid for partly in money, and partly mortgaged: and this accounts for another phenomenon—the enormous extent of debt with which the land is burdened, considering that almost the whole of it changed hands at the Revolution, that there was an entire sweeping away of tithes, charges, mortgages, fortunes, &c., and that almost every title in France is now less than fifty years old. Yet within that time, or, indeed, far less, the owners have managed to charge an income of 60,823,880*l.* with a debt bearing an interest of 22,466,531*l.* This debt increases, and must continue to do so. The avidity to possess land, the fancied independence that it confers on its owner, acts on the 4½ millions of families and their kindred unceasingly. "These heroic men," says their friend and admirer, Michelet, in his "*Peuple*," "fight as it were for their lives, but usury fights against them with a force of 4 to 1; their land brings them in 2 per cent., and they pay 8 per cent. for borrowed money."

In earlier times it was doubted whether, on the whole, the *morcellement* was increasing; unfortunately, the returns made by the 80,000 officials, lawyers, surveyors, tax-gatherers, and registrars, whom it is the policy of the French Government to retain in its pay, do not distinctly state how that fact is; we are left to inferences, and they appear to justify some of M. Rubichon's conclusions. In some departments that had been more accurately examined in 1826, when the law before alluded to was under discussion, the lists or *côtes foncières*, presented,

In 1815.....	149,314	contributors.
In 1826.....	161,732	„
Being an increase of....	12,458	„

Those paying less than 16*s.* of impost, (having an estate of, say 6*l.* or 7*l.* rent) were,

In 1815	116,433
In 1826	133,903

So that, though the general increase had only been 12,418, yet the number of smallest ratepayers had increased by 17,470, by the diminution, as we shall see, of the other classes. Those paying from 16*s.* to 25*s.* had in the same time become fewer by 621; those of from 25*s.* to 54*s.* 8*d.* by 1,328; the next class paying from 2*l.* to 4*l.*, were 1,436 less; that above them taxed at from 4*l.* to 20*l.*; 1,394 fewer, from 20*l.* to 40*l.* diminished by 167; and those above 40*l.* by 96. We have before remarked upon the 123,360,338 parcels, whose variety of ownership we cannot ascertain exactly, but the continual severance of properties is almost as mischievous as the diminution of them. It is, indeed, sometimes contended, that on the whole the additions and cumulations balance the divisions. But assuming that each parent brought an equal portion into the common fund, in the usual case of three children there is a diminution of one-third; if there were only two to inherit, there would be neither gain nor loss. In the case of an only child, there would be a gain, as far as mere pecuniary and apparent value; but by the separate allotting, the use, convenience, and real worth of the property, that which commands the *pretium affectionis* is most materially impaired.

We have now gone through the principal heads of MM. Rubichon and Monnier's statistics. As an epitome of all that is known relative to the production of agriculture, it is unequalled by anything we possess in this country. The work would well repay the perusal of it by those who are curious in these matters; far from being a dry inquiry, it is lively, spirited, and abounding in pleasantry. And even after making every allowance for the strong political prejudices of the chief author, his work developes a state of affairs pregnant with danger, not only to the progress, but ultimately to the liberties, of France, and with instruction and warning to her neighbours. The morcellement, at whatever rate it proceeds, be the ultimate agrarianism near or remote, cannot, as it appears to us, be stopped until the absolute ruin of the country shall have been effected. The majority are interested in maintaining it; that is, if three be the average of children to a marriage, there would be two in favour of equal division against one who might wish for an alteration; as long, that is, as the property to be cut up is worth the operation: it is only when it ceases to be so that we can expect from a general national assent the renunciation of the then valueless birthright. "C'est un vice *radical* irrémédiable," wrote M. Dupin of it twenty years ago, in his *Forces Productives de la France*: he observed that England then averaged three times as much meat, milk, and cheese for every individual of her population as France. But then he calculated that the animal force, applied to equal surfaces of territory, was in Great Britain eleven times that of the human, while in France it was only four times. The petite culture appears to substitute men for animals, but on condition that the former undertake the labour performed in this country by the latter.

M. Say thinks extensive farming multiplies towns and favours im-

provement; while he doubts whether there is the same amount of labour and value invested in the little peasant holdings in Switzerland and Germany as in the large farms of England. "Une culture misérable n'est donc pas toujours la compagne nécessaire de la petite culture, mais elle est inévitablement la compagne de la paresse et de l'ignorance." A mixture of all kinds (and we subscribe heartily to it) he thinks best: large for corn, grass, oleaginous plants, and live stock; small for olives, bees, silk, hemp, flax, and legumes; subject, of course, to climate.

M. Dunoyer, in his "*Liberté du Travail*," has some sensible remarks on the size of occupations:—"When the soil is fertile there may be more subdivision than where it is poor. But the division will *eventually be in proportion to the capital of those seeking to cultivate it*: as, for instance, England is rich, therefore her farmers can afford large breadths. If the owners of the land are poor and ignorant, small cultivation will prevail; and small properties cut up into '*lambeaux*' (rags), will command a better price. So that in France, though the *tendency* of the law is complained of, the temptation to the greater owners is to anticipate it, and set themselves up to supply the market."

A statutory division of the soil on the death of each owner is wholly inadequate as a preventive against poverty; and the only equality that can be attained by forcible regulations is one of distress and indigence. In the Nivernais, says M. Bourgoing, a president of one of the agricultural societies of the department, where agriculture, collieries and iron works, and manufactures, have made great progress, and where the condition of the labourer is superior to what it is in France—so much so, that for eighty days of the summer his wages are 1*s.* 8*d.* a day,—yet his whole yearly hiring brings him in but 16*l.* 3*s.*, on which he keeps a wife and three children, pays taxes, rent, and obtains nothing from the poor-rates. For his dwelling, including from twenty to forty perches of ground, he pays 2*l.*, besides 2*s.* 6*d.* for impôt, and 2*s.* in lieu of work on the roads. The dwelling is particularised as consisting of *one room, one garret, and one cellar*. Further on we are told that it is small, damp, *generally without windows*, air and light enter by a single door, which generally shuts ill, and lets in the wintry cold, and all the exhalations of the neighbouring dunghill. Really sooner than divide such houses, it would be better for the rural population to betake themselves to tents—we mean the camel-hair tents of the Bedouins, thick, dark, and heavy—good defences, in short, against both heat and cold. A large proportion of the dwellings throughout France are of the meanest description—the extremes of grandeur and misery are as strikingly contrasted there as elsewhere. The 50,476 houses of Paris contain, on an average, 34 openings. On the other hand, France has 346,401 human habitations within its limits (like rabbit burrows) with *but one opening*: from 1,000,000, therefore, to 1,500,000 of her population are totally independent of the glazier; 1,817,328 have but two openings, *i. e.* one window, besides the door; 1,320,937 more possess but three apertures. These 3,483,466 houses (more than half the total number of houses in the country) have only this moderate provision for ventilation and light. The numbers are accurately known, for the best of all reasons, because they are all taxed—no exemptions.

M. H. Passy, formerly a peer and a minister, has endeavoured to defend the system attacked by Rubichon. First he tells us large properties do not ensure large farms, as witness Europe before the French Revolution and Ireland at the present day, where, though the estates are extensive the occupations are minute. Next, that large farms can co-exist with a general minute subdivision of the soil. The reader will at once see the impossibility in practice of this hypothesis. How can a farmer, in order to obtain the necessary occupancy and uniform cultivation of the lands belonging to fifty different owners, some under disabilities, others minors, others beyond seas—how is he to conclude agreements coterminously with such a variety of wills, ages, interests, each jealous of the other, each fearful that his own plot may be robbed for the benefit of his neighbours; all having such diversity of estate in their land, old and young, reckless and prudent, obstinate and selfish? Even in England, where the advantages of cultivation on the large scale are so much better understood, it appears in those parishes where common fields still continue to exist, expense, ignorance, or other feelings interfere to prevent the throwing them together, and practically the result is, that each patch is tilled by a different tenant, is in a different course of rotation, and really does present the appearance of what he terms a “*vaste échiquier*.”

M. Passy, though he adduces a few instances in which the population has increased, aware that the whole range of statistical facts by no means indicate agricultural prosperity in France, endeavours to apologise for it by the reflection, that land on the whole will always fall into the hands of those who turn it to the best account; the competition is so great that it will not remain long in the hands of those who do not thrive upon it: the owners of these parcels, after striving hard for a livelihood for some years, are compelled by increasing misery to sell them, and this puts everything right again. Surely this is a desperate remedy to rely upon. Is a man to be taught first of all to place an infinite value on the possession of his bit of land, to devote year after year of his strength and manhood to its cultivation, merely to learn that in his decline, in the evening of his life, he is to be driven forth into exile? Are the affections, the feelings, the habits of those who have struggled so hard to extract a competence from an ungrateful vocation for the best and most active portion of a life, to be overlooked? is the scorning of these ties without danger? Is the bitter disappointment of numbers, deprived alike of past comfort, of present possession, and of future hope, a contingency which a statesman should contemplate with complacent optimism?

M. Passy is not much more than half right when he adverts to the safety enjoyed by a state in which a large portion of the population is engaged in manufacturing articles of primary necessity, and for which, therefore, the demand is so general as to ensure for the producers an uninterrupted livelihood. The industry which supplies the caprices and pleasures of consumers in distant countries, of men whose manners we cannot influence, of nations liable and likely to be supplied by a shift of the fashion, a turn of the die, an accidental discovery made in some other quarter to the exclusion of our own, is no doubt precarious. Its failure would bring home to the heart of England unexampled distress. Manufactures of more palpable utility do not appear exposed to

similar vicissitudes. Our clothing trade has seldom been long suffering, while our silk manufactures in Spitalfields like those of Lyons are periodically subject to severe depression. But then, on the other hand, a land in which no luxury is enjoyed, one entirely free from "barbaric splendour and pomp," still more so, one in which property is equalized by law, leaves no margin and store for bad times; it supposes famines unknown, seasons uniformly healthy and propitious; it provides no reserve-fund wherewith a rich class, as in England, has occasionally kept alive a poor nation, such as Ireland.

Facts bearing on the Progress of the Railway System.

By WYNDHAM HARDING.

[Read before the Statistical Section of the British Association at Swansea,
14th August, 1848.]

THE modern Railway System of Europe may be said to date from 1830, when the construction by the English engineer, George Stephenson, of the Liverpool and Manchester Railway with its locomotive engines, was completed.

After that date we heard no more of such prophecies as the following, (from the *Quarterly Review* in 1825) which it is not useless to record as a lesson of caution to us for the future. "As to those persons who speculate on making railways generally throughout the kingdom, and superseding all the canals, all the wagons, mails, and stage-coaches, post-chaises, and in short, every other mode of conveyance by land and by water, we deem them and their visionary schemes unworthy of notice. What, for instance, can be more *palpably absurd and ridiculous* than the following paragraph," in which a prospect is held out of locomotive travelling twice as fast as stage-coaches? "We should as soon," adds the reviewer, "expect the people of Woolwich to suffer themselves to be fired off upon one of Congreve's ricochet rockets as trust themselves to the mercy of such a machine going at such a rate."

The modern railway system has, however, not only done this, giving rise to new habits in the present generation, but it has proved to be the great mechanical invention of the 19th century as the steam-engine was of the 18th; but it is still in its infancy, it is especially the province of statistical inquiry to watch its growth, so that on the one hand, timely remedies may be applied to its defects, and on the other, free scope may be given to its beneficial tendencies.

Valuable papers have been contributed by Mr. Laing, Mr. Porter, Mr. Graham, and others, analysing the traffic on railways during the infancy of the system to the year 1843. Shortly before that period, there had been a pause in railways. During two years a few miles of railway had been sanctioned—but the period which has since elapsed comprises the memorable railway mania years of 1845 and 1846—under this excitement, intelligence and emulation have been stimulated among the managers of railways to the utmost, and the system has rapidly advanced. The consolidation of railways under a few great companies by the process styled amalgamation has proceeded—the